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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of		TI-25771
	Thomas J. Olson	Art Unit: 2613
Serial No.:	09/292,265	Examiner: Allen C. Wong
Filed:	April 15, 1999	Conf. No.: 3301
For:	Automatic Video Monitoring System Which Selectively Saves Information	

CERTIFICATION OF FACSIMILE TRANSMISSION

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Robin E. Barnum

May 24, 2004
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___ INFORMAL DRAWINGS	X **REPLY BRIEF (29 Pages)**
___ CONTINUATION APP'N (# Pages)	X **Reply Brief Fee TL (1 page)**
___ DIVISIONAL APP'N	

NAME OF INVENTOR(S): Thomas J. Olson	RECEIPT DATE & SERIAL NO.: **Serial No.: 09/292,265** **Filing Date:** April 15, 1999
TITLE OF INVENTION: Automatic Video Monitoring System Which Selectively Saves Information	
TI FILE NO.: **TI-25771** / DEPOSIT ACCT. NO.: **20-0668**	
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REPLY BRIEF TRANSMITTAL

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

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Robin E. Barnum

Dear Sir:

The following Reply Brief is respectfully submitted in connection with the above-identified application in response to the Appeal Brief mailed January 12, 2004 and the Examiner's Answer mailed March 24, 2004.

Respectfully submitted,

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Olson
Serial No.: 09/292,265
Filed: April 15, 1999
Art Unit: 2613
Examiner: Allen C. Wong
Docket: TI-25771
For: AUTOMATIC VIDEO MONITORING SYSTEM WHICH SELECTIVELY SAVES INFORMATION

Reply Brief under 37 C.F.R. §1.193(b)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

CERTIFICATION OF FAX TRANSMITTAL UNDER 37 C.F.R. §1.6(b)

I hereby certify that the above correspondence is being facsimile transmitted to the Patent and Trademark Office on May 24, 2004.

Robin E. Barnum

Dear Sir:

This is Applicant's Reply Brief filed pursuant to 37 C.F.R. §1.193(b) in response to new points of argument set forth in the EXAMINER'S ANSWER of March 24, 2004.

This REPLY BRIEF is directed only to new arguments appearing in the EXAMINER'S ANSWER. The Applicants respectfully submit that all prior arguments of the FINAL REJECTION were refuted in the APPEAL BRIEF filed January 12, 2004. In accordance with the limitations upon arguments of 37 C.F.R. §1.193(b), this REPLY BRIEF does not repeat response to previous arguments in the FINAL REJECTION. The Applicants respectfully submit that failure to respond to previous arguments repeated in the EXAMINER'S ANSWER should not be taken as agreement. The Applicants continue to rely

upon the APPEAL BRIEF as response to these prior arguments in the Examiner's FINAL REJECTION.

Group I

(1) The EXAMINER'S ANSWER states at page 9, lines 9 to 17:

> "First, after careful perusal of the examiner's citation, Seeley states 'When viewing of one scene is completed, another camera is selected by the operator or CAC.' Note Seeley discloses that 'the operator or the CAC', where the CAC is the central alarm computer as noted in Seeley's column 8, lines 20-21, can select another camera where the other camera is focusing on another image. The CAC or the central alarm computer is clearly controlling the selection of an image when the operator is not in manual control. And since Seeley teaches that can be in either manual control (ie. operator) or automatic control (ie. CAC, central alarm computer), the examiner is relying on Seeley's teaching of a CAC to meet the claimed limitations of the automatically selected image."

This portion of the EXAMINER'S ANSWER cites a part of Seeley et al not previously cited relative to claims 1 and 22. This represents a new argument not previously made by the Examiner.

Claim 1 recites "automatically selecting a portion of a single image of the succession of detected images for each identified moving object using selection criteria." Claim 22 similarly recites the image processing section is operative to "automatically select a portion of a single image of the succession of detected images for each identified object utilizing selection criteria." This selection of a portion of one of the detected images is taught in the application at page 13, lines 19 to 29. Seeley et al at column 8, lines 19 to 25 (including the portion newly cited in the EXAMINER'S ANSWER) states:

> "At the central station, a signal router 100, video server (VS) 102, and a central alarm computer (CAC) 104, are interconnected with a plurality of workstations (WS) 106 to

display video images and other information to the operator to assist the operator in determining whether the intrusion requires alerting the authorities."

The Examiner states that this portion of Seeley et al teaches either manual or automatic selection of "another camera where the other camera is focusing on another image." The Applicants respectfully submit that this is not what is claimed in claims 1 and 22. Each claims recites selection of a portion of a single image in a succession of images. The camera selection by the CAC of Seeley et al, whether manual or automatic, selects between plural streams of successive images of one camera among many cameras. This is not the selection of a single image as claimed. Claims 1 and 22 further recite selection of a portion of this single image. The selection of a camera by the CAC of Seeley et al fails to teach or make obvious the selection of a portion of an image. Lastly, claims 1 and 22 each recite that the selected portion of the image corresponds to an identified moving object. The Examiner has never cited any portion of any reference that teaches manual or automatic identification of a moving object nor selection of a portion of an image corresponding to such a moving object. This newly cited portion of Seeley et al thus adds nothing to previously cited portions of Seeley et al, Gore et al and Williams et al to make obvious selection of a portion of an image for each moving object as recited in claims 1 and 22. Accordingly, claims 1 and 22 are allowable.

The EXAMINER'S ANSWER states at page 10, lines 16 to 18:

"Seeley discloses that the images can be obtained and identified by either the operator or by automatic means as disclosed in col. 10, ln. 26-28, where cameras can be 'preprogrammed' for automatic identification, not manually."

This characterization of Seeley et al is a new argument first presented in the EXAMINER'S ANSWER.

Seeley et al states at column 10, lines 26 to 28 states:

> "As part of the tour, selected cameras may be required (preprogrammed) to view particular areas of the premise which are of interest."

The Applicants respectfully submit that preprogramming cameras to view areas of interest fails to anticipate or make obvious the automatic selection of "a portion of a single image of the succession of detected images" for each identified object as recited in claims 1 and 22. This portion of Seeley et al teaches selection of particular cameras, but not the claimed selection of a portion of an image corresponding to an identified object. Note that this portion of Seeley et al includes no teaching about object identification only selection of a sequence of camera views. This newly cited portion of Seeley et al thus adds nothing to previously cited portions of Seeley et al, Gore et al and Williams et al to make obvious selection of a portion of an image for each moving object as recited in claims 1 and 22. Accordingly, claims 1 and 22 are allowable.

Group II

The EXAMINER'S ANSWER states at page 11, lines 8 to 21 states:

> "Clearly, the appellant is flat out wrong in their attempt to explain the written citation of col.5, ln.58 to col.6, ln.2, where the detection of intruders clearly involve detecting humans, and in this recognition process of whether the intruder is human or not human, a facial recognition must be done to determine whether the intruder is human or not. The intruder's face is the most crucial element in detecting intruders and in Seeley's fig.7, there is an image processor that contains a recognition & object labeling section (36) for having a database and programs for further image analysis

processes in intruder recognition. Further, in col. 10, ln. 19-31 and col. 16, ln. 50 to col. 17, ln. 7, Seeley discloses either the operator or the CAC can zoom in the camera to the object of interest, ie. face of the human intruder, so that one can obtain a zoomed in image of the object of interest or human face, in this instance, to obtain a 'visible and large' human face or highlight the intruder's face. Thus, Seeley clearly discloses the detecting of a 'visible and large' image of a person's face."

This portion of the EXAMINER'S ANSWER includes new citation of column 5, line 58 to column 6, line 2 and column 16, line 50 to column 17, line 7 of Seeley et al and is therefore a new argument.

Claim 3 recites the image selection process uses "image selection criteria which are intended to lead to the selection of an image in which the face of a detected person is visible and large." Claim 40 similarly recites that the image processing section is operative to "use image selection criteria which are intended to lead to the selection of an image in which the face of a detected person is visible and large." The Applicants respectfully submit that some teaching of a person's face is required to make obvious these recitations. Seeley et al includes no such teachings. Seeley et al states at column 5, line 58 to column 6, line 2:

"The system operates on the premise that only the presence of an intruder of a designated class, or an unknown, is of consequence, that everything else which is detected may be ignored, and that other alarm conditions are met. A recognition process is used to differentiate between those objects falling within and without a designated class of objects, so to reduce or substantially eliminate false and unwanted alarms. In most circumstances, the designated class is human, but the differentiation process is to identify a class into which an intruder fits; e.g., human, non-human, and unknown. However, regardless of the class of interest, for objects falling within a selected class, an indication is given."

While the EXAMINER'S ANSWER states "the detection of intruders clearly involve detecting humans, and in this recognition process of whether the intruder is human or not human, a facial recognition must be done to determine whether the intruder is human or not. The intruder's face is the most crucial element in detecting intruders" no portion of the cited section of Seeley et al mentions a face. Neither does this part of Seeley et al teach that facial recognition is needed to determine "whether the intruder is human or not." While Seeley et al states that a differential process is needed, it fails to teach differentiation based upon a face. This newly cited portion of Seeley et al thus adds nothing to previously cited portions of Seeley et al, Gore et al and Williams et al to make obvious selection of an image with a visible and large face as recited in claims 3 and 40. Accordingly, claims 3 and 40 are allowable.

Seeley et al states at column 16, line 50 to column 7, line 7:

> "Workstation 106, as shown in FIG. 15, includes a video display 602, keyboard 604, speaker 606, and microphone 608. Display 602 is divided into four quadrants labelled 602a-602d. In quadrant 602a, status information for the cameras 22 at the premise is displayed. This includes information as to which camera is providing video from the site, for example. Information is also displayed in this portion of the screen as to the type of video being viewed; that is, is the video live, buffered, or stored or archival video.
>
> "In quadrant 602b, the operator has the ability to display up to sixteen thumbnails (i.e., the compressed frames of video shown in FIG. 4B). The operator can place these images in any order he wishes so to create a desired pattern or mosaic of the frames. The images displayed also can be not only current video, but stored video as well. This allows the operator to determine, for example, if an intruder has been previously detected on the premise (e.g., an employee, guard, etc.). As indicated at Y, the operator can highlight one of the thumbnails for which he wishes to see full frame video (a snapshot). The snapshot is then displayed in quadrant 602c. It will be understood that the thumbnails and snapshots are provided by, or through the video server using an ethernet

connection between the video server and worstation as indicated at 610 of the control portion 612 of the workstation."

This portion of Seeley et al teaches display options which include status information in quadrant 602a, thumbnail displays in quadrant 602b, a full frame snapshot in quadrant 602c and relevant side data in quadrant 602d. This portion of Seeley et al mentions neither a person's face nor a "visible and large" face as recited in claims 3 and 40. Other portions of Seeley et al teach operator or automatic control of camera zoom. However, neither this nor any other part of Seeley et al teach zooming the camera in on a human face so that it is "visible and large" as recited in claims 3 and 40. The Applicants respectfully submit that Seeley et al includes no teachings of a face. This newly cited portion of Seeley et al thus adds nothing to previously cited portions of Seeley et al, Gore et al and Williams et al to make obvious the image selection intended to lead to a "visible and large" face as recited in claims 3 and 40. Accordingly, claims 3 and 40 are allowable.

Group III

The EXAMINER'S ANSWER states at page 12, lines 4 to 14:

"Seeley's col. 10, lines 19-31 discloses that either the operator or the CAC, central alarm computer, can zoom in the camera on the desired object or scene of interest, and when an object is zoomed, a bounding box must appear on the object or scene of interest to highlight the object or scene of interest, where a bounding box can be focused on the lowermost side of the bounding box or the size of the bounding box. When a panning operation, a tilting operation or a zooming operation takes place, a bounding box must appear to highlight the area of interest to prepare for panning, tilting or zooming. When zooming operation occurs on an image area of interest, a bounding box appears where the bounding box can vary in size if necessary to obtain the object or areas of interest. Thus, Seeley meets the broad limitations of the claims."

This represents a new argument first presented in the EXAMINER'S ANSWER.

Claim 4 recites "determining a bounding box subset of the single image for a given change region in each image of a set of images in which the given change region appears." Claim 41 similarly recites that image processing section is operative to "determine a bounding box subset of the selected image for a given change region in each image of a set of images in which the given change region appears." Both claims 4 and 41 recite that the bounding box is a subset of the single image. The Applicants respectfully submit that the pan, zoom and tilt operations taught in Seeley et al fail to teach or make obvious "a subset of a single image" as recited in claims 4 and 41. Assuming that one used the teachings of Seeley et al to pan, zoom and tilt the camera to highlight an area of interest, this would result in a new image. This new image would not be a subset of the prior image. This newly cited portion of Seeley et al thus adds nothing to previously cited portions of Seeley et al, Gore et al and Williams et al to make obvious determining a bounding box subset of a single image for each change region as recited in claims 4 and 41. Accordingly, claims 4 and 41 are allowable.

Claim 4 recites "selecting the selected image for the given change region by discarding images from the set in which a lowermost side of the bounding box is higher than in other images of the set, and by selecting from the remaining images of the set an image in which a size of the bounding box is larger than in the other remaining images of the set." Claim 41 similarly recites that image processing section is operative to "select the selected image for the given change region by discarding images from the set in which a lowermost side of the bounding box is higher than in other images of the set, and by selecting from the remaining images

of the set an image in which a size of the bounding box is larger than in the other remaining images of the set." Seeley et al fails to teach or make obvious selecting an image based upon its lowermost side or its size. Even if the pan, zoom and tilt operations taught in Seeley et al make obvious the claimed bounding box, Seeley et al fails to make obvious the recited selection criteria. Selection based upon the lowermost side of the bounding box would translate into selection based upon the amount of tilt. However, Seeley et al does not disclose image selection based amount of tilt. Selection based upon the bounding box size would translate into selection based upon the amount of zoom. Seeley et al does not disclose image selection based upon the amount of zoom. This newly cited portion of Seeley et al thus adds nothing to previously cited portions of Seeley et al, Gore et al and Williams et al to make obvious discarding images in which a lowermost side of the bounding box is higher than in other images and by selecting images in which the bounding box is larger as recited in claims 4 and 41. Accordingly, claims 4 and 41 are allowable.

Group IV

The EXAMINER'S ANSWER states at page 13, lines 9 to 13:

> "In col. 15, ln. 25-37, Seeley discloses the selection of a prior portion of an image over a current portion of an image based upon the portion having the lowermost point of images, where the operator can select the prior thumbnail that contains the prior image portion for viewing if the operator desires to, as well as the change in size or "blowing up" the image size for viewing."

This is a portion of Seeley et al newly cited relative to claims 5 and 42 and is therefore a new argument first presented in the EXAMINER'S ANSWER.

Claims 5 and 42 recite the automatic selecting uses "image selection criteria which cause a current image to be selected over a prior image if a lowermost point of a detected change region is lower in the current image than in the prior image." Seeley et al at column 15, lines 25 to 37 states:

> "Upon request by the operator, "thumbnails," or abbreviated snapshots are transmitted to a workstation 106 at the central station where they can be arranged in a mosaic pattern by the operator for his or her viewing. After viewing the thumbnails, the operator can select one or more of the images for transmission from SCU 12 to the system control. Reviewing thumbnails is comparable to reviewing multiple photographic slides at once, with the intent to select one or more for "blowing up" to full size prints. In the preferred embodiment, a thumbnail is 1/16 the size of a snapshot (i.e. every fourth pixel and every fourth row of a frame as depicted in FIG. 8A and shown as in FIG. 8B) and can therefore be transmitted in 1/16 the time of a snapshot."

This portion of Seeley et al teaches operator selection of a thumbnail for viewing and possible blowing up to a full size print. This portion of Seeley et al fails to state any selection criteria to be used by the operator for selection of a thumbnail. In particular, this portion of Seeley et al does not teach selection of an image based upon the lowermost point of a detected change region. This portion of Seeley et al teaches neither detecting a change region nor a lowermost point of such a change region. This newly cited portion of Seeley et al thus adds nothing to previously cited portions of Seeley et al, Gore et al and Williams et al to make obvious selecting a current image over a prior image if a lowermost point of a detected change region is lower in the current image as recited in claims 5 and 42. Accordingly, claims 5 and 42 are allowable.

Group V

The EXAMINER'S ANSWER states at page 13, lines 5 to 13:

> "Regarding lines 10-14 on page 11 of appellant's arguments, appellant contends that the combination of Seeley, Gorr in view of Williams does not teach or suggest image selection criteria which cause a current image to be selected over a prior image if a detected change region has increased in size relative to a prior image or in other words, a change in the current image with respect to the previous image, or an alarm condition. The examiner respectfully disagrees. Seeley discloses in col.15, In.10-17, that the selection of current image data over the prior image data is done when the presence of an alarm condition or intruder alert occurs. Also, Seeley discloses the selection criteria to determine what kind of event is the intrusion (col.5, line 58 to col.6, line 2; note Seeley discloses that certain alarm conditions need to be met before indicating the presence of an intruder; col.6, lines 32-41, Seeley discloses saving of the time of intrusion and other historical data; col.11, line 42, Seeley discloses the image is continually or periodically updated). Also, Seeley discloses the selecting of an image that is larger than other images in a set of images (col.10, lines 19-31; note Seeley discloses that either the operator or the CAC, central alarm computer, can zoom in the camera on the desired object or scene of interest, and when an object is zoomed, a bounding box appears on the object or scene of interest). Also, peruse Seeley's col.16, In.56 to col. 17, In.27. Thus, the broad limitations are met."

This portion of the EXAMINER'S ANSWER cites several portions of Seeley et al not previously cited against claims 6 and 43. This new citation represents a new argument not previously presented.

Claims 6 and 43 recite the automatic selecting uses "image selection criteria which cause a current image to be selected over a prior image if a detected change region has increased in size relative to a prior image." Seeley et al at column 15, lines 10 to 17 state:

> "While operator O is viewing the scene from the camera 22 from which the first event occurred, SCU 12 continues to

monitor the rest of the facility with the other cameras being used. Should one or more of these cameras also detect the presence of an intruder, then operator O will be alerted to these occurrences as well with the SCU now providing snapshots from these other cameras as well as those from the first camera."

This does teach the selection of an image upon an alarm condition or intruder alert. However, this portion of Seeley et al includes no teaching of image selection based upon an increase in size of a change region. Seeley et al column 5, line 58 to column 6, line 2 is quoted above. This portion of Seeley et al does teach selection criteria to determine what kind of event is the intrusion. However, this portion of Seeley et al includes no teaching of image selection based upon an increase in size of a change region. Seeley et al at column 6, lines 32 to 41 states:

"The VS receives, logs, and stores all of the video transmitted to the central station (including live video), and provides the video to a workstation (WS) at the central station which is selected by the CAC as being available for use by an operator to view video as well as any associated data relating to the site at which a reported intrusion has occurred. The VS also stores and facilitates retrieval of historical video data for the premise being monitored and for the workstation activities at the time of an intrusion."

This portion of Seeley et al teaches saving video and associated data at a central station for viewing at a workstation. However, this portion of Seeley et al includes no teaching of image selection based upon an increase in size of a change region. Seeley et al at column 11, line 42 states:

"The stored image is continually updated."

This portion of Seeley et al teaches continually updating of the stored image. However, this portion of Seeley et al includes no

teaching of image selection based upon an increase in size of a change region. Seeley et al at column 10, line 19 to 31 states:

> "When viewing of one scene is completed, another camera is selected by the operator or CAC. SCU 12 accordingly suspends detection from the newly selected camera, and places the previously selected camera back into its surveillance mode. For the selected camera the operator or CAC is free to pan, tilt or zoom the camera to obtain a better view of the scene, or a portion of a scene which is of interest. As part of the tour, selected cameras may be required (preprogrammed) to view particular areas of the premise which are of interest. The CAC generates and maintains a log for each tour containing information as to when performed, cameras used, operator notes, etc."

This portion of Seeley et al does teach selecting a camera and its corresponding view which can pan, tilt and zoom. However, this portion of Seeley et al includes no teaching of image selection based upon an increase in size of a change region. Seeley et al at column 16, line 56 to column 17, line 27 states:

> "Workstation 106, as shown in FIG. 15, includes a video display 602, keyboard 604, speaker 606, and microphone 608. Display 602 is divided into four quadrants labelled 602a-602d. In quadrant 602a, status information for the cameras 22 at the premise is displayed. This includes information as to which camera is providing video from the site, for example. Information is also displayed in this portion of the screen as to the type of video being viewed; that is, is the video live, buffered, or stored or archival video.
>
> "In quadrant 602b, the operator has the ability to display up to sixteen thumbnails (i.e., the compressed frames of video shown in FIG. 4B). The operator can place these images in any order he wishes so to create a desired pattern or mosaic of the frames. The images displayed also can be not only current video, but stored video as well. This allows the operator to determine, for example, if an intruder has been previously detected on the premise (e.g., an employee, guard, etc.). As indicated at Y, the operator can highlight one of the thumbnails for which he wishes to see full frame video (a snapshot). The snapshot is then displayed in quadrant 602c. It will be understood that the thumbnails and snapshots are provided by, or through the video server using an ethernet

connection between the video server and worstation as indicated at 610 of the control portion 612 of the workstation.

"In the remaining quadrant 602d, relevant site data is displayed. This information is obtained through the central alarm computer and, again, can be both current and stored data. The workstation is connected to the CAC through a second and separate ethernet connection 614. Information displayed in quadrant 602d includes such information as:

"who owns or operates the premise where the intrusion is detected;

"the address of the premise;

"who should be notified in the event of an alarm (both from the authorities and owner/operator personnel);

"the type of alarm (intrusion, fire, burglary, holdup);

"the point of the alarm.

"For the latter, those skilled in the art understand that sensors such as S1-S3, are installed in sensing loops routed through the premise, and that a point represents a particular location in the premise served by a particular device or loop. Point identification information thus identifies that location for the operator."

This portion of Seeley et al includes no teaching of image selection based upon an increase in size of a change region. In general the EXAMINER'S ANSWER regarding Group V includes correct characterization of the details of the teaching of Seeley et al. However, the Examiner has pointed out no portion of Seeley et al that teaches the claimed change region or selection of an image based upon a change region increased in size relative to a prior image. This newly cited portion of Seeley et al thus adds nothing to previously cited portions of Seeley et al, Gore et al and Williams et al to make obvious selecting a current image a prior image if a detected change region has increased in size relative as recited in claims 6 and 43. Accordingly, claims 6 and 43 are allowable.

Group VI

The EXAMINER'S ANSWER states at page 14, line 15 to page 15, line 6:

> "Seeley discloses the selection criteria to determine what kind of event is the intrusion (col.5, line 58 to col.6, line 2; note Seeley discloses that certain alarm conditions need to be met before indicating the presence of an intruder; col.6, lines 32-41, Seeley discloses saving of the time of intrusion and other historical data; col.11, line 42, Seeley discloses the image is continually or periodically updated). Also, Seeley discloses the selecting of an image that is larger than other images in a set of images (col. 10, lines 19-31; note Seeley discloses that either the operator or the CAC, central alarm computer, can zoom in the camera on the desired object or scene of interest, and when an object is zoomed, a bounding box appears on the object or scene of interest). Also, peruse Seeley's col.16, In.56 to col.17, In.27, where the use of loops where the stored image data is used for comparing the current image data to determine if an alarm condition is present. For instance, if the current image does not have a previously detected object located in the previous image, then there is cause for alarm. Thus, Seeley discloses the broad limitations of the claims."

This portion of the EXAMINER'S ANSWER cites several portions of Seeley et al not previously cited against claims 9 and 46. This new citation represents a new argument not previously presented.

Claims 9 and 46 recite selection of an image upon "detection of the absence of a previously detected object". The Examiner's characterization of the cited newly sections of Seeley et al quoted above is accurate. However, the EXAMINER'S ANSWER does not allege that any of these sections of Seeley et al teaches "detection of the absence of a previously detected object". Instead the EXAMINER'S ANSWER states "For instance, if the current image does not have a previously detected object located in the previous image, then there is cause for alarm" without any reference to where this is taught or made obvious in Seeley et al. The newly cited sections of Seeley et al (most of which are quoted above with

regard to Group V) include numerous teaching without making obvious the detection of the absence of a previously detected object. This newly cited portion of Seeley et al thus adds nothing to previously cited portions of Seeley et al, Gore et al and Williams et al to make obvious detection of the absence of a previously detected object as recited in claims 9 and 46. Accordingly, claims 9 and 46 are allowable.

Group VII

The EXAMINER'S ANSWER states at page 15, lines 11 to 18:

> "In col. 16, ln. 56 to col. 17, ln. 27, Seeley discloses the use of time loops where the stored image data is used for comparing the current image data to determine if an alarm condition, ie. if object is moved or stationary, is present over a period or length of time. For instance, if the current image does not have a previously detected object located in the previous image, then there is cause for alarm. Also, see Seeley's col. 11, ln. 13-37, where time periods can be set to determine if a previously detected object remains within a region for a period of time. Thus, Seeley discloses the broad limitations of the claims."

This portion of the EXAMINER'S ANSWER cites several portions of Seeley et al not previously cited against claims 10 and 47. This new citation represents a new argument not previously presented.

Claims 10 and 47 recite selection of an image upon detection that "an object has remained within a predefined region of the area for a specified time interval." The EXAMINER'S ANSWER states "Seeley discloses the use of time loops where the stored image data is used for comparing the current image data to determine if an alarm condition, ie. if object is moved or stationary, is present over a period or length of time." The Applicants disagree with this characterization of the cited portion of Seeley et al. Seeley et al at column 16, lines 50 to 58 teaches the display of live or stored video as shown in Figure 15. This portion mentions no alarm

conditions. Seeley et al at column 16, line 59 to column 17, line 7 describes the display of thumbnails in quadrant 502b of the display. This portion of Seeley et al includes at column 16, lines 61 to 67:

> "The operator can place these images in any order he wishes so to create a desired pattern or mosaic of the frames. The images displayed also can be not only current video, but stored video as well. This allows the operator to determine, for example, if an intruder has been previously detected on the premise (e.g., an employee, guard, etc.)."

This teaches that the operator can review stored video to determine a previous intrusion. This fails to teach selection of an image based upon "an object has remained within a predefined region of the area for a specified time interval" as recited in claims 10 and 47. In particular, this portion of Seeley et al fails to teach the recited "specified time interval." Seeley et al at column 7, line 8 to 27 teaches the display of site data in quadrant 602d of the display. This portion of Seeley et al teaches display of an alarm condition without teaching how such an alarm was determined. In particular, this portion of Seeley et al fails to teach the "specified time interval" recited in claims 10 and 47. The EXAMINER'S ANSWER states "For instance, if the current image does not have a previously detected object located in the previous image, then there is cause for alarm." This argument is misapplied regarding claims 10 and 47 because these claims do not recite this subject matter. Seeley et al at column 11, lines 13 to 37 states:

> "In operation, a controller section 28 of the SCU responds to commands from the central station and AU 16 to operate the cameras. The SCU also receives commands from the system operator to turn cameras "on" and "off". In addition, the SCU is programmable to automatically turn the cameras "on" and "off". Usually, the SCU is programmed to turn the cameras "off" during that portion of a day when the premises being

monitored is normally occupied. The SCU then automatically turns the cameras "on" at a preset time at the end of this period, or the last person to leave the premises may instruct the SCU to do so by activating a security system switch located on panel P. The SCU then controls the monitoring function performed by the cameras until it automatically shuts "off" the cameras at a preset time, or someone shuts the system off using a coded input or the like. During the monitoring period, the SCU sequentially cycles through each of the cameras obtaining images from each. The cameras are connected to a pan, tilt, and zoom (PTZ) controller 29 and controller 28 utilizes the pan, tilt, and zoom capabilities of the cameras, as appropriate, to obtain the best possible images for processing. The cameras provide video signals at a controllable frame rate which can be a constant frame rate (15 Hz, for example). The frame rate for each camera is separately controllable."

The Applicants respectfully submit that this portion of Seeley et al teaches automatic control of operation of the cameras including automatic turning the cameras ON and OFF. No alarm conditions are described, nor does this teach any condition detection. The Examiners states "time periods can be set to determine if a previously detected object remains within a region for a period of time" but Seeley et al fails to teach setting such periods. Only this application provides this teaching. Thus this argument employs hindsight from the Applicants' teachings. This newly cited portion of Seeley et al thus adds nothing to previously cited portions of Seeley et al, Gore et al and Williams et al to make obvious detection that an object has remained within a predefined region for a specified time interval as recited in claims 10 and 47. Accordingly, claims 10 and 47 are allowable.

Group VIII

The EXAMINER'S ANSWER states at page 15, line 22 to page 16, line 8:

"In col. 16, ln. 56 to col. 17, ln. 27, Seeley discloses the use of time loops where the stored image data is used for comparing the current image data to determine if an alarm condition, ie. if object is moved or stationary, is present over a period or length of time. For instance, if the current image does not have a previously detected object located in the previous image, then there is cause for alarm. Also, see Seeley's col. 11, ln. 13-37, where time periods can be set to determine if an object remains within a region for a period of time to observe if a previously detected object has been moved or stationary. Thus, Seeley discloses the broad limitations of the claims."

This portion of the EXAMINER'S ANSWER cites several portions of Seeley et al not previously cited against claims 11 and 48. This new citation represents a new argument not previously presented.

Claims 11 and 48 recite selection of an image upon "determination that a previously moving object has become stationary." The portions of Seeley et al newly cited in the EXAMINER'S ANSWER regarding claims 11 and 48 are the same as preciously cited regarding claims 10 and 47. The EXAMINER'S ANSWER states "Seeley discloses the use of time loops where the stored image data is used for comparing the current image data to determine if an alarm condition, ie. if object is moved or stationary, is present over a period or length of time." The Applicants believe this characterization is incorrect. Seeley et al at column 16, lines 50 to 58 teaches the display of live or stored video as shown in Figure 15 without any mention of alarm conditions. Seeley et al at column 16, line 59 to column 17, line 7 describes the display of thumbnails in quadrant 502b of the display teaching that the operator can review stored video to determine a previous intrusion. This fails to teach selection of an image based upon "determination that a previously moving object has become stationary" as recited in claims 11 and 48. Seeley et al at column 17, line 8 to 27 teaches the display of site data in quadrant 602d of the display including display of an alarm

condition without teaching how such an alarm was determined. The EXAMINER'S ANSWER states "For instance, if the current image does not have a previously detected object located in the previous image, then there is cause for alarm." This argument is misapplied regarding claims 11 and 48 because these claims do not recite this subject matter. Seeley et al at column 11, lines 13 to 37 teaches automatic control of operation of the cameras including automatic turning the cameras ON and OFF. No alarm conditions are described, nor does this teach any condition detection. The Examiners states "time periods can be set to determine if a previously detected object remains within a region for a period of time" but Seeley et al fails to teach setting such periods. Only this application provides this teaching. Thus this argument employs hindsight from the Applicants' teachings. This newly cited portion of Seeley et al thus adds nothing to previously cited portions of Seeley et al, Gore et al and Williams et al to make obvious selection of an image upon determination that a previously moving object has become stationary as recited in claims 11 and 48. Accordingly, claims 11 and 48 are allowable.

Group IX

The EXAMINER'S ANSWER states at page 16, lines 12 to 20:

> "In col. 16, ln. 56 to col. 17, ln. 27, Seeley discloses the use of time loops where the stored image data is used for comparing the current image data to determine if an alarm condition, ie. if object is moved or stationary, is present over a period or length of time. For instance, if the current image does not have a previously detected object located in the previous image, then there is cause for alarm. Also, see Seeley's col. 11, ln. 13-37, where time periods can be set to determine if an object remains within a region for a period of time to observe if a previously detected object has been moved or stationary. Thus, Seeley discloses the broad limitations of the claims."

This portion of the EXAMINER'S ANSWER cites several portions of Seeley et al not previously cited against claims 12 and 49. This new citation represents a new argument not previously presented.

Claims 12 and 49 recite selection of an image upon "determination a previously stationary object has started moving." The portions of Seeley et al newly cited in the EXAMINER'S ANSWER regarding claims 12 and 49 are the same as preciously cited regarding claims 10 and 47 and regarding claims 11 and 48. The EXAMINER'S ANSWER states "Seeley discloses the use of time loops where the stored image data is used for comparing the current image data to determine if an alarm condition, ie. if object is moved or stationary, is present over a period or length of time." The Applicants believe this characterization is incorrect. Seeley et al at column 16, lines 50 to 58 teaches the display of live or stored video as shown in Figure 15 without any mention of alarm conditions. Seeley et al at column 16, line 59 to column 17, line 7 describes the display of thumbnails in quadrant 502b of the display teaching that the operator can review stored video to determine a previous intrusion. This fails to teach selection of an image based upon "determination a previously stationary object has started moving" as recited in claims 12 and 49. Seeley et al at column 17, line 8 to 27 teaches the display of site data in quadrant 602d of the display including display of an alarm condition without teaching how such an alarm was determined. The EXAMINER'S ANSWER states "For instance, if the current image does not have a previously detected object located in the previous image, then there is cause for alarm." This argument is misapplied regarding claims 12 and 49 because these claims do not recite this subject matter. Seeley et al at column 11, lines 13 to 37 teaches automatic control of operation of the cameras including automatic turning the cameras ON and OFF. No alarm conditions are described, nor does this teach any condition detection. The Examiners states

"time periods can be set to determine if a previously detected object remains within a region for a period of time" but Seeley et al fails to teach setting such periods. Only this application provides this teaching. Thus this argument employs hindsight from the Applicants' teachings. This newly cited portion of Seeley et al thus adds nothing to previously cited portions of Seeley et al, Gore et al and Williams et al to make obvious as recited in claims 12 and 49. Accordingly, claims 12 and 49 are allowable.

Group X

The EXAMINER'S ANSWER states at page 17, lines 10 to 12:

> "Further, in col. 15, ln. 37-39, Seeley discloses the object can be obtained as a full size image or a zoomed in large image that fully or completely encompasses the detected object. Thus, the broad limitations of the claims are met."

This portion of the EXAMINER'S ANSWER cites Seeley et al column 15, lines 37 to 39 not previously cited against claims 15 and 52. This new citation represents a new argument not previously presented.

Claims 15 and 52 recite "bounding box subset of the single image just large enough to completely contain the detected object" and saving "a portion of a detected image corresponding to the bounding box." Seeley et al at column 15, lines 33 to 39 (including the portion newly cited in the EXAMINER'S ANSWER) states:

> "In the preferred embodiment, a thumbnail is 1/16 the size of a snapshot (i.e. every fourth pixel and every fourth row of a frame as depicted in FIG. 8A and shown as in FIG. 8B) and can therefore be transmitted in 1/16 the time of a snapshot. After viewing the snapshots, the operator can select one or more full size images (snapshots) for transmission."

This portion of Seeley et al clearly states that the thumbnails are decimated copies of the snapshots. Other portions of Seeley et al make clear that the snapshots are live or stored camera images. This portion of Seeley et al fails to teach than an "object can be obtained as a full size image or a zoomed in large image that fully or completely encompasses the detected object" because this portion of Seeley et al fails to provide any indication of the contents of the snapshots and corresponding thumbnails. Other portions of Seeley et al teach zooming without teaching that the zoomed display is "just large enough to completely contain the detected object." Seeley et al includes no teaching that the zoom goes to the point that display is just large enough to completely contain the detected object. Seeley et al teaches saving the entire zoomed image without teaching "saving a portion of a detected image corresponding to the bounding box" as recited in claims 15 and 52. This newly cited portion of Seeley et al thus adds nothing to previously cited portions of Seeley et al, Gore et al and Williams et al to make obvious selection of an image upon determination a previously stationary object has started moving as recited in claims 15 and 52. Accordingly, claims 15 and 52 are allowable.

Group XI

The EXAMINER'S ANSWER states at page 18, lines 2 to 6:

> "Also, in col. 15, ln. 24-30, Seeley discloses the "thumbnails" are saved and can be selected for viewing as a detected object that incorporates the bounding box enclosing the detected or identified object, and the identified object can be viewed as a full sized image for fully viewing the entire identified object (col. 15, ln. 37-39). Thus, the broad limitations are met."

This portion of the EXAMINER'S ANSWER cites Seeley et al column 15, lines 24 to 30 and lines 37 to 39 not previously cited against

claims 16 and 53. This new citation represents a new argument not previously presented.

Claims 16 and 53 recite "saving one of the detected images as a reference image at a first resolution, and wherein said step of saving the selected portion of the single image is carried out by saving the bounding box enclosing the selected portion of the single image at a second resolution which is higher than the first resolution." Respective base claims 15 and 52 recite that this bounding box is "just large enough to completely contain a corresponding detected object." Seeley et al at column 15, lines 24 to 39 (including the portions newly cited in the EXAMINER'S ANSWER) states:

> "Upon request by the operator, "thumbnails," or abbreviated snapshots are transmitted to a workstation 106 at the central station where they can be arranged in a mosaic pattern by the operator for his or her viewing. After viewing the thumbnails, the operator can select one or more of the images for transmission from SCU 12 to the system control. Reviewing thumbnails is comparable to reviewing multiple photographic slides at once, with the intent to select one or more for "blowing up" to full size prints. In the preferred embodiment, a thumbnail is 1/16 the size of a snapshot (i.e. every fourth pixel and every fourth row of a frame as depicted in FIG. 8A and shown as in FIG. 8B) and can therefore be transmitted in 1/16 the time of a snapshot. After viewing the snapshots, the operator can select one or more full size images (snapshots) for transmission."

This portion of Seeley et al does teach viewing and transmitting image data at two resolutions, the full size snapshot and the 1/16 reduced size thumbnails. This portion of Seeley et al fails to teach that the images are saved at these two resolutions. The reference to reduced transmission time of the thumbnails implies that only snapshots are stored and that thumbnails are formed at the central station SCU 12 for transmission to workstation 106 for viewing. This portion of Seeley et al fails to teach that any

image saved is limited to the bounding box enclosing an identified object. The thumbnails disclosed in Seeley et al are reduced resolution images of the snapshots, which are the full camera view. The thumbnails of Seeley et al are not a portion of the image as claimed but the whole image at reduced resolution. Employing the zoom taught in Seeley et al at column 10, lines 19 to 31 would result in both the snapshot and the thumbnail showing the whole zoomed image. Thus the thumbnail cannot be the claimed "selected portion of the single image" recited in claims 16 and 53. This portion of Seeley et al fails to teach the "bounding box" recited in claims 16 and 53. This portion of Seeley et al includes no teaching regarding the contents of the snapshots and thumbnails and thus cannot make obvious that the bounding box is "just large enough to completely contain a corresponding detected object" as recited in respective base claims 15 and 52. This newly cited portion of Seeley et al thus adds nothing to previously cited portions of Seeley et al, Gore et al and Williams et al to make obvious saving the bounding box enclosing the selected portion of the single image at a higher resolution than the reference image as recited in claims 16 and 53. Accordingly, claims 16 and 53 are allowable.

Group XII

Claims 17 and 54 were allowed in the EXAMINER'S ANSWER responsive to Applicants' APPEAL BRIEF.

Group XIII

The EXAMINER'S ANSWER states at page 18, line 16 to page 19, line 3:

> "Seeley states 'When viewing of one scene is completed, another camera is selected by the operator or CAC.' Note Seeley discloses that 'the operator or the CAC', where the CAC

is the central alarm computer as noted in Seeley's column 8, lines 20-21, can select another camera where the other camera is focusing on another image. The CAC or the central alarm computer is clearly controlling the selection of an image when the operator is not in manual control. And since Seeley teaches that can be in either manual control (ie. operator) or automatic control (ie. CAC, central alarm computer), the examiner is relying on Seeley's teaching of a CAC to meet the claimed limitations of the automatically selected image."

The EXAMINER'S ANSWER also states at page 21, lines 8 to 12:

"The storage of coordinates is an inherent if not, then it is an extremely, notoriously well known feature in image storage. Since Seeley discloses the image buffers (fig.7, element 51) for storing images, where images must have coordinates to provide the specific locations of interest, so they are saved in Seeley."

This portion of the EXAMINER'S ANSWER cites Seeley et al column 8, lines 20 to 21 and Figure 7, element 51 not previously cited against claims 25 and 29. These new citations represent new arguments not previously presented.

Claim 25 recites "periodically detecting an image of the area" and "automatically selecting a portion of a single image of the succession of detected images for each identified moving object using selection criteria." Claim 29 similarly recites "a detector which is operative to periodically detect an image of the area" and an image processing section operative to "automatically select a portion of a single image of the succession of detected images for each identified object utilizing selection criteria." Seeley et al at column 8, lines 19 to 25 (including the portion newly cited in the EXAMINER'S ANSWER) states:

"At the central station, a signal router 100, video server (VS) 102, and a central alarm computer (CAC) 104, are interconnected with a plurality of workstations (WS) 106 to display video images and other information to the operator to

assist the operator in determining whether the intrusion requires alerting the authorities."

This disclosure of Seeley et al in teaches selection of another camera for a different view. However, neither claim 25 nor claim 29 recites selection of another camera for another view. Instead, claims 25 and 29 recite automatically selecting a portion of an image for each identified moving object. Thus this teaching of Seeley et al adds nothing to the other portions cited by the Examiner to make obvious claims 25 and 29.

Claim 25 recites "automatically saving a series of Cartesian coordinate pairs which identifies the path of movement of the object, said information being retained after the object is no longer present in newly detected images." Claim 29 similarly recites an image processor operative to "automatically save a series of Cartesian coordinate pairs which identifies the path of movement of each moving object, and to retain the information after the moving object ceases to be present in current detected images." Seeley et al at column 18, lines 26 to 46 states:

"As shown in FIG. 7, the images from cameras 22, in addition to being supplied to snapshot buffer 40 are also supplied to a video compression module 50. A compressed image, as shown in FIG. 8B, is made by taking, for example, every fourth pixel of a full frame image of FIG. 8A. Thus, a thumbnail has a pixel size of 128*120. Alternatively, rather than taking every fourth pixel, a thumbnail can also be created using pixel averaging techniques to create a thumbnail of the same 128*120 size. From module 50 compressed images are either sent directly (i.e., live) through video output 46 to the central station, or the compressed images are stored in a compressed video buffer 51 for subsequent transmission. When an intrusion is detected, video compression immediately begins, and the storage capacity of buffer 51 is sufficient to store several seconds of compressed video. The capacity of the buffer may be sufficient so that no images are lost between the time the intrusion is detected and a full bandwidth communications channel is established between the SCU and the central station. Live video is sent to the system control

when, for example, the operator is doing a guard tour of the premise."

The Applicants believe that this portion of Seeley et al includes the only references to video buffer 51. This portion of Seeley et al fails to teach that the system must identify coordinated "to provide the specific locations of interest." Even if this were so, the required coordinates would be the location of the camera. This portion of Seeley et al fails to teach storing any indication of a path of motion of an object within a camera's view as required by the above quoted portions of claims 25 and 29. This newly cited portion of Seeley et al thus adds nothing to previously cited portions of Seeley et al, Gore et al and Williams et al to make obvious selecting a portion of a single image of the succession of detected images for each identified moving object using selection criteria as recited in claims 22 and 29. Accordingly, claims 25 and 29 are allowable.

Group XIV

The EXAMINER'S ANSWER presents no new arguments regarding claims 27 and 56 of Group XIV. Accordingly, no further argument by the Applicants is appropriate under 37 C.F.R. §1.193(b).

In view of the foregoing arguments, the Applicant respectfully submits that claims are allowable for the reasons set forth above. Accordingly, the Applicant respectfully requests reversal of the final rejection and advance to issue.

If the Examiner has any questions or other correspondence regarding this application, Applicants request that the Examiner contact Applicants' attorney at the below listed telephone number and address to facilitate prosecution.

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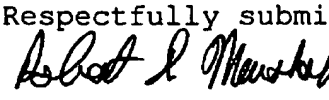
Respectfully submitted,



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